

## ABSTRACT OF THE DISCLOSURE

X-ray therapy EPI artifact reduction and control of imaging is provided. Scanning of images is synchronized with the pulse rate of the x-rays. The scanning period is longer than the pulse rate period, so artifacts are generated within the resulting images. Due to the synchronization, the pulse variation artifacts are aligned across multiple images. The synchronization and resulting alignment of linear artifacts allows for gain correction as a function of lines within the image. Such gain correction reduces or removes non-linearities associated with pulse rate variation.

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